You may be wondering just where to start in what is a fairly extensive list of causes for why your car has decided not to start. In an effort to help you focus upon the reasons most applicable to your situation I have split this chapter into three basic sub-sections -

- **Engine cranks with, or close to, its normal vigour: 1-1**
- **Engine cranks, but slowly: 1-2**
- **Engine will not crank: 1-3**

I hope these very basic diagnoses will help you get going again as quickly as possible, though you need to appreciate that there may be more than one reason why your car won’t start.

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**ENGINE CRANKS AT OR CLOSE TO ITS NORMAL VIGOUR**

Consider whether the car has been reluctant to start first thing in the morning for some time, which may mean you need to check for one set of potential faults; whether it has been progressively harder to start as the colder weather advances; or whether the car has generally been starting easily until this occasion.

**Engine has been reluctant to start for some time**

1-1-1 This symptom suggests that the general tune of the engine is slowly deteriorating and that, at the very least, the ignition, and possibly the carburation, need servicing. However, consider first whether the engine is turning over as briskly as it did. If not, check the fan/drivebelt tension and the battery and its connections. If the battery is at the correct acid level and there’s no corrosion on the terminals, check the engine earth (ground) connection to the chassis. The braided “loop” or “earth strap” is required to ensure that the electrical return from the starter motor has an easy path to earth past the rubber engine and gearbox mountings. The strap’s position can vary depending upon the year the car was manufactured, but chrome bumper cars were earthed across the left side engine mounting and later cars between the gearbox and body. Rust creeps into the interface between strap and body and creates a barrier. You need to thoroughly clean the contact areas of the strap, lightly cover in petroleum jelly/Vaseline, fit new washers and tighten securely.

If the car has not been serviced recently it would be sensible to carry out a full service. At the very least change the engine oil and filter, the fuel filter (if fitted), sparkplugs and contact breaker points, and clean the inside and outside of the distributor cap and ensure the central contact is in good order.

With the distributor cap off, check that the rotor arm is clean in the centre and at its periphery, and that the cap’s four internal contacts are not worn, pitted or damaged. Check that the vacuum...
the event of water splashing up on to the ignition electrics it is more likely that the engine will missfire for a few seconds and then die completely. So if the missfire continues for a few minutes getting neither better nor worse, it probably is not caused by dampness/water, so read on.

3-1-3 If you’re experiencing bad (and possibly worsening) engine performance, but the engine does at least keep going, the probability is that the condenser in the distributor is going “open-circuit.” In other words it is as if there were no condenser, and the consequence of this type of fault is that the points burn very quickly and that the ignition circuits don’t function as well as they were designed to – hence the poor engine performance. Typical

3-1-3 Changing the condenser and/or points beside the road is no fun, particularly if it’s an operation you’re unfamiliar with. Many would advocate removing the whole distributor, but I think the job is easier if you’ve followed my suggested list of spares and have a spare baseplate for the distributor, complete with a serviceable set of points and condenser; they don’t have to be new. This baseplate is from the Lucas 25D distributor of an early/chrome bumper car; the 2BA retaining nut (arrowed) gives this fact away. Later cars had a Lucas 45D series distributor with a sliding spring mounting superseding the 2BA nut.

consequences are very slow acceleration, missing and a very curtailed rev-range. If you’re experiencing any such symptoms, by far the best solution is to replace the condenser and contract breaker points as a matter of course for the small sum they cost. The condenser is an item that takes up very little space, so always carry a spare. Unfortunately, there is no easy test to establish whether a condenser is faulty - hence my suggestion that you substitute a new one in any circumstances where the ignition system is giving cause for concern. Condensers can start off the day perfectly serviceable, but, usually when hot, start to become progressively less and less effective.

Lift the cap off the distributor and take a careful note of where things go around the distributor’s points/condenser. I know you’re broken down and are in a hurry to get going again, but if you’re not familiar with ignition systems, it really is worth taking a couple of minutes to sketch the routing of the various wires and the order of assembly of the low tension wires and insulator. Note, for example, that you do not need to disturb the points unless they are burnt and need changing.

Unscrew the crosshead screw that secures the condenser and the top 2BA nut on top of the pillar carefully (it is very easy to drop either, or both) and ease up the washer and then the usually white(ish) top hat-shaped insulator. Put both on one side out of harm’s way and concentrate on the two ring terminals now left on the pillar. You may find that the condenser’s terminal is on the top in which case it is a simple case of just removing the whole condenser and replacing it. If you happen to find the input wire’s ring termination on top, lift that gently away for a second, remove the condenser and replace the terminals loosely on the pillar in any convenient order. The next step is one of the key details that must be done correctly. Put the top hat insulator back on the pillar such that it goes through the two wiring eyes and the pivot arm of the points and that these three components are insulated from the other low tension ignition components in the area. You should have the flat (wide) top of the insulator looking up at you, ready to accept the washer and 2BA nut - which you’ll note can be screwed down but will be insulated from the two ring terminals and the point’s pivot. Secure the condenser, put the cap back on the distributor and try the engine.

3-1-4 Even a correctly serviced car can experience problems. A degenerating condenser can burn or “pip” the points and cheap non-original equipment points sometimes have cam-followers made from soft material that wears prematurely. Both

reduce the ability of the points to open and close properly. Further, it’s possible that the points securing screw was not quite pinched-up tight or even that the car was not properly serviced! Whatever the underlying reason, unless you have electronic ignition (fitted as standard to US MGBs from 1976 and retro-fitted to numerous UK cars of all years) the contact breaker points need to open and close as the distributor’s cam rotates. If your car’s points have virtually closed up, they will not be making and breaking the primary (low tension) ignition circuit as intended.

To check, remove the cap from the top of the distributor. Be careful not to disturb any of the high tension lead connectors but push the cap/leads back out of the way. The cap cannot and need not move far as the sparkplug leads will prevent it, but you want to be able to see into the
push the car forward until number eight
valve has been pushed fully down by its
rocker. Handbrake on, and adjust number
one tappet. Handbrake off, roll the car
slowly forward until number 7 valve is fully
depressed and put the handbrake on. By
the “rule of 9” we know that 9 minus 7
allows us to adjust number 2 tappet with
confidence. Proceed with the “rule of 9”
until all tappets have been adjusted.

• Ideally, refit the rocker cover with
a new gasket, but I must admit I rarely
bother with the new gasket unless the
original one has cracked/broken.

Not forgetting to select neutral, try
the engine. Don’t panic if she still rattles a
little bit on start-up, the real test is whether
the engine rattles when hot. The rattle
should at least have decreased. If the
engine still rattles a little there is probably
no real problem, for the MGB engine has
a reputation for tappet noise. Indeed, you
can buy a cast aluminium rocker cover
that not only looks better than the original
pressing but also reduces the almost
inevitable tappet rattle. However if the
engine rattles as badly as ever, you need
to read on ...

6-8-1 A rattling or ticking noise that
remains even with the tappets are correctly
gapped and whether the car is static or on
the road can signal worn cam followers
or a worn camshaft. Further diagnose
this problem by placing a 0.010in feeler
between each rocker and valve stem in
turn with the rocker cover off and the
engine idling. The ticking will stop with
the feeler in place and restart when you
withdraw it if your engine is suffering from
these problems.

6-9-1 If the engine still has very noisy
top end even after adjusting the tappets,
the engine probably has a worn rocker
shaft and/or worn rockers. As you may
have guessed, it is not the valve contact
faces of the rockers that have worn, but
rather the rocker bores such that they are
slopping about and thus rattling on the
(probably also worn) shaft on which they
pivot. This would not be an unusual
problem by any means.

To check, remove the rocker cover,
the four retaining nuts and remove the
rocker shaft assembly complete. Each
rocker should pivot on the shaft without
restriction but there should be no obvious
clearance between any rocker and its
shaft. In this circumstance you should
expect to find several if not all rockers can
be moved up/down on the shaft signifying
excessive clearance between rockers and
shaft due to wear.

You can buy all of the rocker/shaft
components individually, but if most of

6-10-1 If tappet rattle returns or
increases within a relatively short distance
(say 3 or 4000 miles) of adjusting the
valve clearances the engine could, in these
days of lead-free fuels, be suffering from
valve seat recession (VSR) and you need
to be alert to this possibility. While this
does not help those readers outside the
UK, nevertheless many may be interested,
even surprised to learn that leaded petrol
is still available from certain retailers
around the UK and that the list is growing
all the time. The coverage is national and
there should be at least one source in
every reasonably sized town. If this
interests you and is a potential solution
to your VSR, take a look at
<www.bayfordthrust.co.uk>. The first
corrective step is to re-adjust the tappets
and, I suggest, you make a note
somewhere as to the recorded mileage.
If you’re fairly sure that the car’s cylinder
head has not been modified for the use

6-9-1 The rocker shaft and bearing (arrowed) that eventually wears. The shaft and this
bearing work under the constant upward pressure of the valve springs, so some wear is
inevitable over time. Not related, but also highlighted is a valve seat: these need to be
harder in an engine using unleaded fuels (see 6-10-1).
gaiters/boots (the rubber bellows at each end of the rack) for cracks or holes from which oil may have leaked. If necessary, change the gaiters. Although not necessary to remove the steering rack, the ball joints at each end of the rack must be removed in order to slip the new gaiters onto the end of the rack - which, unfortunately, will upset the tracking (more on this shortly).

After changing the gaiters top up the rack with the recommended oil. This is most easily achieved by jacking the car so that it is tilted sideways, and releasing the clamp that secures the gaiter to the track rod (usually a plastic tie), and syringing in the oil. Refasten the open end of the gaiter to achieve an oil-tight seal.

Provided you measured the centres of the ball joints and replicated that after fitting the new gaiters, the resultant wheel tracking should not be too inaccurate. Try the car for a few days and, if there’s an improvement, get it professionally tracked. If no improvement, it’s time to consider the rack itself.

**Excessive play/lash at steering wheel**

10-12-1 Play in the steering can also cause the car to wander, with the almost inevitable over-correction making the problem worse. This play is the result of wear within either the steering rack or the universal joint (UJ) within the steering column. You should be able to feel the play/lash at the steering wheel when the car is stationary, and also notice, when in motion, that turning the wheel slightly has little or no effect on direction.

Check the universal joint by having a helper turn the steering wheel from side-to-side whilst you watch the UJ for (tiny) flexing movements. They may be small and seem insignificant, but remember that wear in the UJ is multiplied several fold by the time the rim of the steering wheel is reached. Feel for movement in the UJ, *(Warning! - you need to be sure your partner does not turn the steering wheel too far or too quickly thus trapping your hand!)* If the UJ is worn it’s easily replaced, although you’ll have to drop the rack forwards for a few minutes by removing it from the front crossmember.

If the UJ is not showing even the smallest sign of play, then the play must be in the rack. On the off-chance that the rack is not securely fastened to the front crossmember, check the four rack mounting bolts. If tight, there’s a wear problem within the rack: buy a service exchange rack.

10-13-1 Service exchange steering racks are readily available at reasonable cost, and come pre-filled with the correct grade of oil and new gaiters. Order a new...
12-8-1 (Picture 3) It looks as if this central tube has separated from its bonded rubber bush, and certainly needs replacing. Since the spring also looks well used, this is clearly a case for a new pair of rear springs.

12-8-1 (Picture 4) Order a complete kit, as shown here. Safely support both car and axle, and change one spring at a time.

12-8-1 (Picture 5) In addition to the front eye fastening, remove the two U-bolts...

12-8-1 (Picture 6) ...and the rear shackle, seen here with the sideplate removed.

12-8-1 (Picture 7) Use lots of copper-based grease at every stage of reassembly, and remember that the springs are heavy; get help to offer up each replacement.

12-8-1 (Picture 8) You may need to compress the spring to lengthen it sufficiently to get the shackle into place (before fitting the plate)...

they’ve perished and are neither locating the rear axle as you would wish nor providing the cushioned spring movement important to reasonably silent rear suspension. If an eye bush has perished you’ll need to replace both rear springs. The springs come with new bushes in place and will transform the drivability of your car if the old springs were “past it”.

I must tell you that removing a pair of rusted rear springs from an MGB is high on my list of hated jobs and one you may be very wise to subcontract to your

12-8-1 (Picture 9) ...and to drop the axle to marry it to the spring...

12-8-1 (Picture 10) ...Finally, tighten the eye bolt with the car’s weight on the axle.